SECOR

SECOR
INTERNATIONAL
INCORPORATED

www.secor.com
446 Eisenhower Lane North
Lombard, IL 60148
630-792-1680 TEL
630-792-1691 FAX

November 4, 2004

TO: Mr. Russell Hart, RPM
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

FROM: Mr. David Curnock, PM, SECOR International Incorporated DMC FOR

RE: MONTHLY PROGRESS REPORT/MEMORANDUM
Area 9/10 Remedial Design
Southeast Rockford Groundwater Contamination Superfund Site
Rockford, Illinois

Copies: Mr. Thomas Turner, Regional Counsel, USEPA Region V
Mr. Scott Moyer, Hamilton Sundstrand/United Technologies Corporation
Ms. Kathleen McFadden, United Technologies Corporation
Mr. Thomas Williams, PM, IEPA
Mr. Terry Ayers, IEPA

CURRENT MONTH PROJECT ISSUES/STATUS: (*activities, meetings, deliverables, etc.)*
Activities conducted in October 2004 consisted of preparations for the continuation of the Pre-Design Investigation. In particular, these activities are to consist of the installation of four additional monitoring wells on the Hamilton Sundstrand plant property in an attempt to identify the location(s) of potential source areas for continued groundwater contamination. Three of these monitoring wells are to be located in the southwestern portion of the plant (a.k.a. South Alley). The fourth monitoring well will be located in the northeastern portion of the Hamilton Sundstrand plant property.

Prior to the installation of the wells, utility concerns (above ground and below ground) needed to be assessed. Also, aspects of potential inconveniences to plant operations were addressed. From utility and operational aspects, the areas proposed for these four additional monitoring wells are very congested. Because of potential overhead utility concerns, low profile drilling/sampling equipment will be employed. Soil boring/sampling and monitoring well installation activities are scheduled to begin on November 1, 2004.

These additional investigation activities were approved by USEPA in a letter dated September 30, 2004.

An alternative to the current product recovery equipment was tested in the area of the observed product (jet fuel) in the eastern portion of the South Alley (RW-3 and RW-1). The alternative recovery equipment tested consisted of a Flexible Arial Peristaltic (FAP®) pump system. Excerpts from an informational pamphlet regarding this recovery pump have been included as an attachment to this memorandum. This type of system is considered to be

safe and effective as it is air-driven and provides the sensitivity for thick and thin layer product recovery operations. The testing consisted of deploying a FAP® pump with a four-inch specific density float in RW-1. The system and float is such that the top of the float rides at the water product interface. Product is collected at this point and is vacuum ejected through a discharge line. Short term testing (one day deployment) identified this equipment as an effective alternative to the current recovery pump systems. It was also determined during the evaluation that RW-3 is partially obstructed with the remains of another historical product removal pump. In order to make this recovery point effective, removal and replacement of recovery well RW-3 is being considered.

FUTURE PROJECT ISSUES/STATUS: *(activities, meetings, deliverables, etc.)*
Future project activities for November 2004 will include the installation of four soil borings that will be completed as shallow monitoring wells. Soil samples will be collected and submitted to the laboratory for analyses of volatile organic compounds (VOCs) and jet fuel (diesel range organics) using USEPA SW-846 methods 8260 and modified 8015. Soil boring and monitoring well activities will be conducted in accordance with protocol and procedures outlined in the various approved project plans for Remedial Design for Area 9/10.

Upon completion of the installation of the monitoring wells, the new wells will be surveyed for elevation and location with respect to the other existing monitoring wells included in the design investigation activities. The wells will be developed. Once developed, these new wells and other existing monitoring wells will be sampled for VOCs and jet fuel (diesel range organics). It is also anticipated that samples will be collected for some general water chemistry parameters (such as dissolved oxygen, BOD, COD, oxidation reduction potential, etc.). These parameters can provide insight in to the degradation processes that are likely occurring in upper portion of this aquifer.

It is anticipated that RW-3 will be removed and replaced to allow deployment of FAP® pump systems in RW-3 and RW-1 utilizing a four-inch density skimming float.

The issue of direct removal (excavation) of near surface soils in the former RCRA outdoor container storage area (OSA) has been discussed between USEPA, IEPA, and Hamilton Sundstrand as a potential interim action with respect to source removal. USEPA has already provided input to this matter in a letter dated September 30, 2004. It is anticipated that these discussions will continue and become more specific in detail as to the approach and outcome effects with regard to the disposition of the OSA within the realm of CERCLA and RCRA.

SAMPLE/TEST DATA SUBMITTALS:
No sample/test data submittals are included with this memorandum. Excerpted pages from a product recovery pump system (FAP®) manual have been attached.

RD SCHEDULE UPDATE: (*attach updated schedule as necessary*)
As the activities associated with the Pre-Design Investigation portion of the Remedial Design (RD) continue, the overall schedule continues to be revised. The Pilot Test Summary Report was submitted to the USEPA on October 1, 2004. Installation of additional investigatory wells is scheduled to begin on November 1, 2004. Based on the completion and development of these wells, groundwater sampling will be conducted in the second half of November 2004. Groundwater analytical data should be available in early December 2004. These results may provide information to move forward with a more focused, cost effective RD for this portion of Area 9/10.

Also, it is anticipated that discussions with USEPA and IEPA concerning the direct removal (by excavation) of near surface impacted soils in the OSA will ensue such that this activity could take place in the spring of 2005.

Hamilton Sundstrand will continue to work with the USEPA on keeping the RD efforts for Area 9/10 moving forward in a timely and reasonable fashion.

REALIZED/ANTICIPATED PROBLEM CONDITIONS:
None.

PERSONNEL CHANGES:
None.

II. Principles of Operation

The FAP Pump System works by cycling air pressure to the bladder. Figure 4 illustrates the two stages of a single cycle. In Figure 4A, the system is in the "ON" or discharge stage. The bottom check valve is forced closed as high pressure air is introduced into the annular space between the inner and outer bladders. The pressure squeezes and collapses the inner bladder forcing its fluid contents to be emptied out through the discharge line. In Figure 4B, the air pulse is exhausted during the "OFF" or filling stage. The inner bladder rebounds creating a strong suction or vacuum. This vacuum forces the top check valve closed and draws fluids into the bottom inlet of the Pump filling the inner bladder. The cycle then repeats. The length of time for the "ON" and "OFF" stages is regulated by the Pump Controller.

The skimmer and coiled hose are connected to the bottom inlet of the FAP Pump. Fluids enter the coiled hose through the filtered top of the float during the pump's "OFF" stage. The Density Skimmers are designed to float with the inlet just above the water/product interface; since the top of the float is immersed in product, only floating product is removed by the FAP Pump.

During the course of FAP Pump operation, the location of the water/product interface may change due to changes in the product thickness or fluctuations in the groundwater level. The coiled hose will extend or compress automatically to accommodate interface fluctuations of up to approximately 30 inch (762 mm) when properly installed. The position of the Density Skimmer at the interface then remains unchanged, and the system can continue to "skim" product only.

When the product layer has been reduced to a minimum, the density float will still float above the water's surface. The float inlet will be exposed to air and will, therefore, pump air into the system. The air will be discharged during the "ON" stage. This phenomenon of "sucking air" is often reported as a system problem, but most often simply means that the pump is removing product at a rate greater than the product yield in the well. Under normal operation, the FAP Pump equipped with Density Skimmer can typically remove product down to a thickness ranging from ¼ inch to ½ inch (6.3 to 13 mm).

Figure 4

FAP Operation

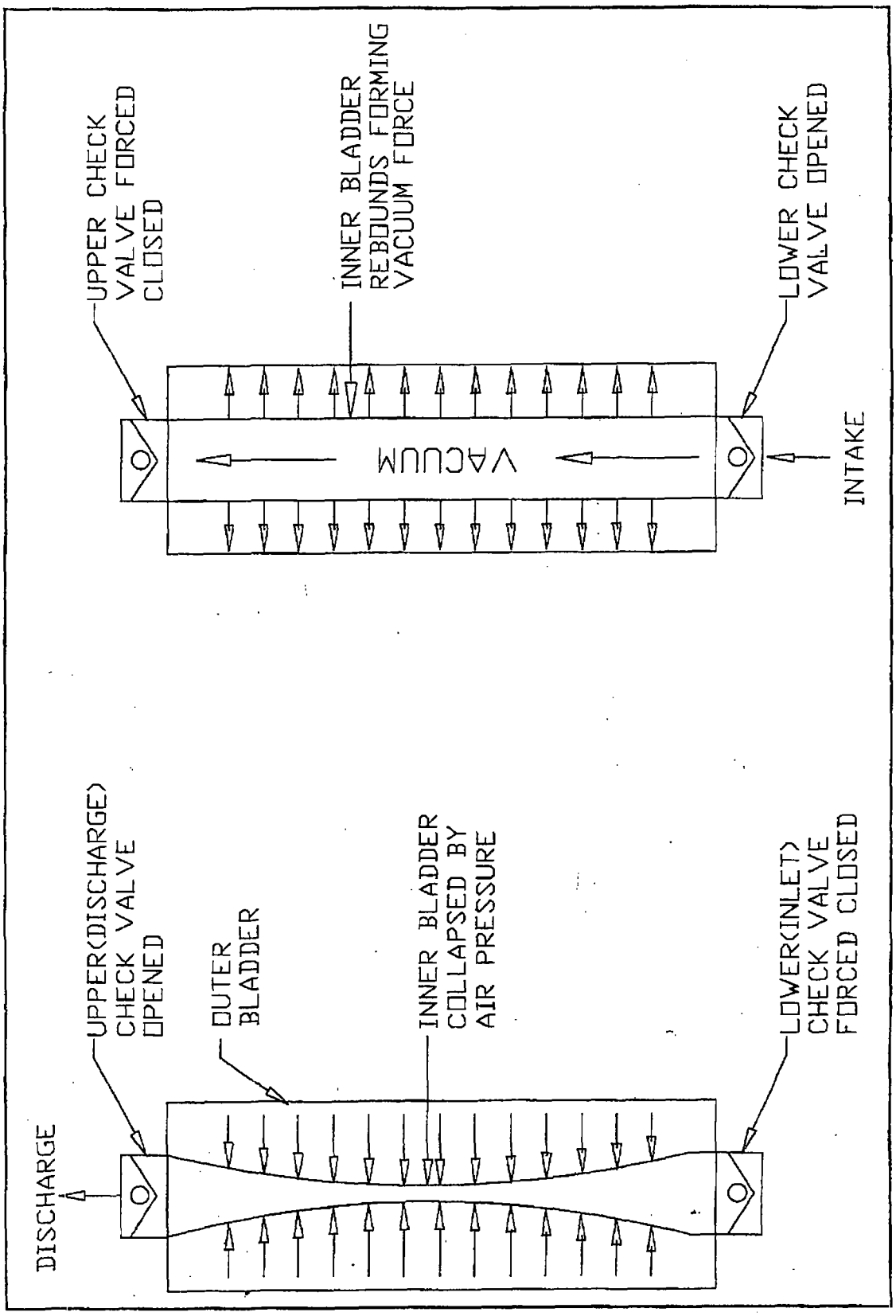

Figure 5

Assembled FAP Pump